



CURRICULUM VITAE
THOMAS DAVID MADDEN

I. BIOGRAPHICAL DATA

Place of Birth: London, U.K.

Date of Birth: 2nd June, 1954

Citizenship: Canadian and UK

Social Ins. No.: 724-677-406

Sex: M Marital Status: Married Children: 2

II. EDUCATION

a) Undergraduate

University of London, U.K. Biochemistry - B.Sc. (HONS) 1976

b) Graduate:

University of London, U.K. Biochemistry - Ph.D. 1980

c) Title of theses written for graduate degree:

Ph.D. title: "The modulation of membrane fluidity in sarcoplasmic reticulum and its effect on the Ca²⁺-ATPase".

Supervisor: Dr. P.J. Quinn, Senior Lecturer

d) Academic awards and distinctions:

Graduate Studentship from Medical Research Council, U.K. 1976-1980

Postdoctoral Fellowship (1980-83) from Medical Research Council of Canada

III. PROFESSIONAL EMPLOYMENT RECORD

a) Research and Academic positions held:

<u>Dates</u>	<u>Position</u>	<u>Department</u>	<u>Institution (Location)</u>
1980-84	Postdoctoral Fellow	Biochemistry	University of B.C.
1984-87	Research Associate	Biochemistry	University of B.C.
1984-87	Consultant	The Liposome Company, Inc.	Princeton, N. J.
1987-91	Scientific Director	The Canadian Liposome Company	N. Vancouver, B.C.
1991-1995	Assistant Professor	Pharmacology and Therapeutics	University of B.C.
1991-1995	Director	Liposome Research Unit	University of B.C.
1995-present	Adjunct Professor	Pharmacology and Therapeutics	University of B.C.

b) Industry positions held:

<u>Dates</u>	<u>Position</u>	<u>Company</u>	<u>Location</u>
1991-1996	President & CEO	Northern Lipids, Inc.	Vancouver, B.C.
1991-2000	Chairman	Northern Lipids, Inc.	Vancouver, B.C.
2000-present	Director	Northern Lipids Inc.	Vancouver, B.C.
1985-2000	Director	Lipex Biomembranes Inc.	Vancouver, B.C.
1996-1999	Director, Form. Devel.	Inex Pharmaceuticals Corp.	Vancouver, B.C.
1999-2002	Director, Product Devel.	Inex Pharmaceuticals Corp.	Vancouver, B.C.
2002-present	Sen. Director, Tech.Devel.&Licensing	Inex Pharmaceuticals Corp.	Vancouver, B.C.

c) Directorships

<u>Dates</u>	<u>Position</u>	<u>Company</u>	<u>Location</u>
1991-2000	Chairman	Northern Lipids, Inc.	Vancouver, B.C.
2000-present	Secretary/Director	Northern Lipids Inc.	Vancouver, B.C.
1985-2000	Director	Lipex Biomembranes Inc.	Vancouver, B.C.
1991-present	President/Secretary	Techguard Systems Inc.	Vancouver, B.C.

IV. PROFESSIONAL ACTIVITIES

a) Membership in professional and learned societies or committees:

Member of the American Biophysical Society

Member, Biotechnology Grant Evaluation Committee, Science Council of British Columbia, 1989-94

Chairman, Biotechnology Grant Evaluation Committee, Science Council of British Columbia 1992-94

Member, American Association for Cancer Research

Member, American Association of Pharmaceutical Scientists

Member, "Pharmacology, Carcinogenesis & Chemistry" grant evaluation panel, National Cancer Institute of Canada, 1996-2000.

Chair, "Pharmacology, Carcinogenesis & Chemistry" grant evaluation panel, National Cancer Institute of Canada, 2000-2003.

b) Professional service and experience (consultancies, professional committees, commissions, visiting professorships, invited lectureships, etc.):

Consultant to The Liposome Company Inc., Princeton, N.J. 1984-1987

Consultant to Microtek Research and Development Ltd., Victoria, B.C. 1991-94

Consultant to Bayer Pharmaceuticals, West Haven, CT, 1994-96

Consultant to Johnson and Johnson, Raritan, N.J. 1991-1995.

External reviewer for Biochemistry, Biophysical Journal, Biochimica et Biophysica Acta, Journal of Liposome Research, Canadian Journal of Biochemistry and Cell Biology, Chemistry and Physics of Lipids and Journal of Pharmaceutical Sciences

V. RESEARCH AND PROFESSIONALLY RELATED SCHOLARLY AND CREATIVE ACTIVITIES

a) Research or equivalent grants received as principal investigator

Over the period 1991 to 2002 I received over \$1.7 million in research grant support from academic granting agencies including the Medical Research Council, National Cancer Institute of Canada, Heart and Stroke Foundation, Science Council of British Columbia and US National Institute of Health; and from industry sponsors, including funding by R.W. Johnson Pharmaceutical Research Institute, Northern Lipids, and Inex Pharmaceuticals.

b) Theses supervised:

As an Assistant Professor in the Department of Pharmacology and Therapeutics at UBC, the following students obtained graduate degrees under my supervision. Mr. Jeffery Mowat completed his M.Sc. (September 1995) and subsequently completed his M.D. at UBC. Ms. Miranda Mok successfully completed a M.Sc. degree under my supervision, defending her thesis in January, 1997. Mr. Edward Choice obtained his Ph.D. in June, 1998. Mr. Manjeet Parmar and Ms. Gitanjali Adlakar-Hutcheon obtained their Ph.D. degrees in 1999 and Mr. Clifford Shew successfully completed his Ph.D. in April, 2001.

VI. PUBLICATIONS (last 5 years)

51. Tardi, P., Choice, E., Masin, D., Redelmeier, T., Bally, M. and **Madden, T.D.**, "Liposomal encapsulation of topotecan enhances anticancer efficacy in murine and human xenograft models", *Cancer Research* 60, 3389-3393 (2000).
52. Lim, H.J, Masin, D., McIntosh, N.L., **Madden, T.D.** and Bally, M.B., "Role of drug release and liposome-mediated drug delivery in governing the therapeutic activity of liposomal mitoxantrone used to treat human A431 and LS180 solid tumors", *J. Pharmacol. Exp. Ther.* 292, 337 – 345 (2000).
53. Lim H.J, Parr M.J, Masin D, McIntosh N.L, **Madden T.D.**, Zhang G, Johnstone S, Bally M.B. "Kupffer cells do not play a role in governing the efficacy of liposomal mitoxantrone used to treat a tumor model designed to assess drug delivery to liver", *Clin. Cancer Res.* 6, 4449-60 (2000).
54. Hu, Q., Shew, C.R., Bally, M.B. and **Madden T.D.**, "Programmable fusogenic vesicles for intracellular delivery of antisense oligonucleotides: enhanced cellular uptake and biological effects", *Biochim. Biophys. Acta* 1514, 1-13 (2001).
55. Hu, Q, Bally, M.B. and **Madden T.D.**, "Subcellular trafficking of antisense oligonucleotides and down-regulation of *bcl-2* gene expression in human melanoma cells using a fusogenic liposome delivery system", *Nucleic Acids Res.* 30, 3632-3641 (2002).

VII. PATENTS ISSUED OR APPLIED FOR

Listed below are issued US patents or US patent applications. In most instances corresponding cases issued or are pending in Europe, Canada, Japan, Australia and other countries.

1. U.S. Patent 4,880,635 "Dehydrated Liposomes". Inventors: Janoff, A.S., Cullis, P.R., Bally, M.B., Fountain, M.W., Ginsberg, R.S., Hope, M.J., **Madden, T.D.**, Schieren, H.P. and Jablonski, R.L.
2. U.S. Patent 4,963,297 "Spontaneous vesiculation of multilamellar liposomes". Inventor: **Madden, T.D.**
3. U.S. Patent 5,077,056 "Encapsulation of antineoplastic agents in liposomes" Bally, M.B., Cullis, P. R., Hope, M.J., **Madden, T.D.**, Mayer, L.D.
4. U.S. Patent 5,389,378 "Benzoporphyrin vesicles and their use in photodynamic therapy". Inventor: **Madden, T.D.**
5. U.S. Patent 5,578,320 "Method of dehydrating liposomes using protective sugars" Janoff, A.S., Cullis, P.R., Bally, M.B., Fountain, M.W., Ginsberg, R.S., Hope, M.J., **Madden, T.D.**, Schieren, H.P., Jablonski, R.L.

6. U.S. Patent 5,616,334 "Low toxicity drug-lipid systems" Janoff, A.S., Boni, L., **Madden, T.D.**, Cullis, P.R., Lenk, R.P., Kearns, J.J., Durning, A.G., Klimchak, R., Portnoff, J.
7. U.S. Patent 5,736,155 "Encapsulation of antineoplastic agents in liposomes" Bally, M.B., Cullis, P.R., Hope, M.J., **Madden, T.D.**, Mayer, L.D.
8. U.S. Patent 5,820,873 "Polyethylene glycol modified ceramide lipids and liposome uses thereof" Choi, L.S.L., **Madden, T.D.** and Webb, M.S.
9. U.S. Patent 5,837,279 "Encapsulation of ionizable agents in liposomes" Janoff, A.S., Cullis, P.R., Bally, M.B., Fountain, M.W., Ginsberg, R.S., Hope, M.J., **Madden, T.D.**, Schieren, H.P., Jablonski, R.L.
10. U.S. Patent 5,858,397 "Liposomal formulations of mitoxantrone" Lim, H.J., **Madden, T.D.**, Bally, M.B., Barber, L.W. and Chang, C.W.
11. U.S. Patent 5,885,613 "Bilayer stabilizing components and their use in forming programmable fusogenic liposomes" Holland, J.W., **Madden, T.D.**, Cullis, P.R.
12. U.S. Patent 5,922,350 "Methods of dehydrating, storing and rehydrating liposomes" Janoff, A.S., Cullis, P.R., Bally, M.B., Fountain, M.W., Ginsberg, R.S., Hope, M.J., **Madden, T.D.**, Schieren, H.P., Jablonski, R.L.
13. U.S. Patent 6,406,713 "Methods of preparing low-toxicity drug-lipid complexes" Janoff, A.S., **Madden, T.D.**, Cullis, P.R., Kearns, J.J., Durning, A.G.
14. U.S. Patent 6,673,364 "Liposome having an exchangeable component" Holland, J.W., **Madden, T.D.**, Cullis, P.R.
15. U.S. Patent Application 20020110586 "Liposomal antineoplastic drugs and uses thereof" **Madden, T.D.**, Semple, S.C., Ahkong, Q.F.
16. U.S. Patent Application 20020119170 "Low toxicity drug-lipid systems" Janoff, A.S., **Madden, T.D.**, Cullis, P.R., Kearns, J.J., Durning, A.G., Boni, L., Lenk, R.P., Klimchak, R., Portnoff, J.
17. U.S. Patent Application 20020119990 "Liposomal camptothecins and uses thereof" **Madden, T.D.**, Semple, S.C.
18. U.S. Patent Application 20040071768 "Compositions and methods for treating cancer" Sarris, A.H., Cabanillas, F., Logan, P.M., Burge, C.T. R., Goldie, J.H., Webb, M.S., **Madden, T.D.**, Semple, S.C., Ahkong, Q.F., Klimuk, S.K.
19. U.S. Patent Application 20040170678 "Liposomal antineoplastic drugs and uses thereof" **Madden, T.D.**, Semple, S.C., Ahkong, Q.F.